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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/535,096

11/28/2005

Naoshi Masukawa

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ALEXANDRIA, VA 22320-4850

EXAMINER

GREENE, JASON M

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

05/28/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/535,096	Applicant(s) MASUKAWA ET AL.	
	Examiner Jason M. Greene	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-10 is/are allowed.
- 6) ☐ Claim(s) ____ is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>5/16/05</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claims

1. With regard to claim 5, the Examiner suggests Applicants insert a period (.) at the end of line 2 to correct a minor grammatical informality.

Allowable Subject Matter

2. Claims 1-10 are allowed.
3. The following is a statement of reasons for the indication of allowable subject matter:

With regard to claims 1-6, Japanese Patent Application Publication JP 2002-102627 discloses a honeycomb structure (10) comprising honeycomb segments (20) separated by porous partitions (23) having circulation holes (21) through the honeycomb in an axial direction, a spacer (13) positioned between neighboring honeycomb segments of the honeycomb segments, and a bonding layer (11) located between honeycomb segments where the spacer is positioned and bonding the neighboring honeycomb segments, and wherein a ratio of an area of the spacer to an area of the bonding layer between respective neighboring honeycomb segments is in a

range of 0.2 and 30% in Figs. 1-3, the English language abstract, and paragraphs [0017] to [0023] of the English language machine translation. JP 2002-102627 teaches the spacer being made of materials having a Young's modulus much greater than 1.5 GPa, including a board (wood), lead and SiC.

Harada et al. (US 6,797,666 B2) discloses a honeycomb structure (10) comprising honeycomb segments (4,5) separated by porous partitions (20) having circulation holes (21) through the honeycomb in an axial direction, a spacer (heat conductive members 18 and 19) positioned between neighboring honeycomb segments of the honeycomb segments, and a bonding layer (24) located between honeycomb segments where the spacer is positioned and bonding the neighboring honeycomb segments, wherein the spacer being made from the same material as the honeycomb segments (see col. 7, lines 1-6), and wherein a ratio of an area of the spacer to an area of the bonding layer between respective neighboring honeycomb segments is in a range of 0.2 and 30% in Figs. 1 and 14-16 and col. 5, line 31 to col. 8, line 59. While Harada et al. teaches the honeycomb segments (and hence the spacers) being formed from porous ceramics (particularly SiC or a Si/SiC composite), the porous ceramics have a Young's modulus much greater than 1.5 GPa to provide structural integrity for the honeycomb structure.

The prior art made of record does not teach or fairly suggest the honeycomb structure of claim 1 wherein the spacer has a Young's modulus of 0.1 to 1.5 GPa.

With regard to claims 7-10, Japanese Patent Application Publication JP 2002-102627 discloses a method of manufacturing a honeycomb structure (10) comprising positioning a spacer (13) on a joining face as an outer peripheral face of a honeycomb segment (20) which is separated by a porous partition (23) and has circulation holes (21) through the honeycomb in an axial direction, with a ratio of area of the spacer to area of the joining face in a range of 0.2 to 30%, plastering a bonding material (11) on the joining face having the spacer fixed to the joining face, stacking another honeycomb segment (20) on the joining face to form a honeycomb segment stacked assembly, and applying a pressure to the honeycomb segment stacked assembly from the outside to bond the honeycomb segment and the another honeycomb segment to each other in Figs. 1-7, the English language abstract, and paragraphs [0017] to [0052] of the English language machine translation.

Harada et al. (US 6,797,666 B2) discloses a method of manufacturing a honeycomb structure (10) comprising positioning a spacer (heat conductive member 18 and 19) on a joining face as an outer peripheral face of a honeycomb segment (4) which is separated by a porous partition (20) and has circulation holes (21) through the honeycomb in an axial direction, with a ratio of area of the spacer to area of the joining face in a range of 0.2 to 30%, plastering a bonding material (24) on the joining face having the spacer fixed to the joining face, stacking another honeycomb segment (5) on the joining face to form a honeycomb segment stacked assembly, and applying a pressure to the honeycomb segment stacked assembly from the outside to bond the

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honeycomb segment and the another honeycomb segment to each other in Figs. 1 and 14-16 and col. 5, line 31 to col. 10, line 29.

The prior art made of record does not teach or fairly suggest the method of claim 7 wherein the spacer has a Young's modulus of 0.1 to 1.5 GPa.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Harada et al. '193, Ono et al., Nishio et al., Fujita et al., Hongo, Bardon et al. and EP 1 854 773 A1 references disclose similar honeycomb structures.

5. This application is in condition for allowance except for the above noted formal matters.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 25 USPQ 74, 453 O.G. 213, (Comm'r Pat. 1935).

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M. Greene whose telephone number is (571)

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272-1157. The examiner can normally be reached on Monday - Friday (9:00 AM to 5:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571) 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jason M. Greene
Primary Examiner
Art Unit 1797

/Jason M. Greene/
5/24/08

jmg
May 24, 2008